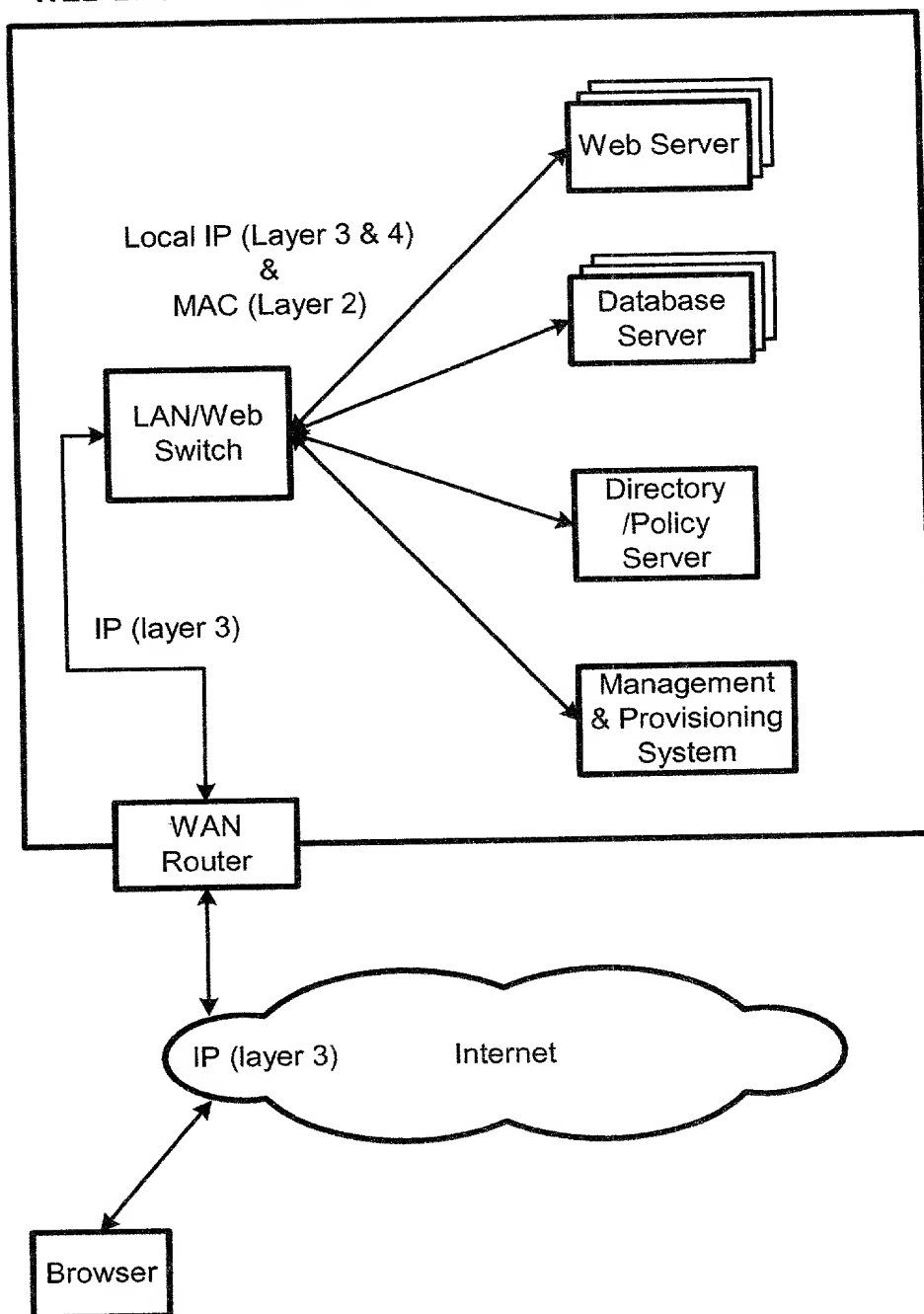


# WEB-BASED DATA CENTER



PRIOR ART

FIG. 1

Protocol Layer	OSI	TCP/IP Protocol Stacks	Router/Switch
7	Application	Application	
6	Presentation		
5	Session		
4	Transport	Transport (TCP)	Web Switch
3	Network	Internet (IP)	Router
2	Data Link	Subnet (MAC)	LAN Switch
1	Physical		

PRIOR ART

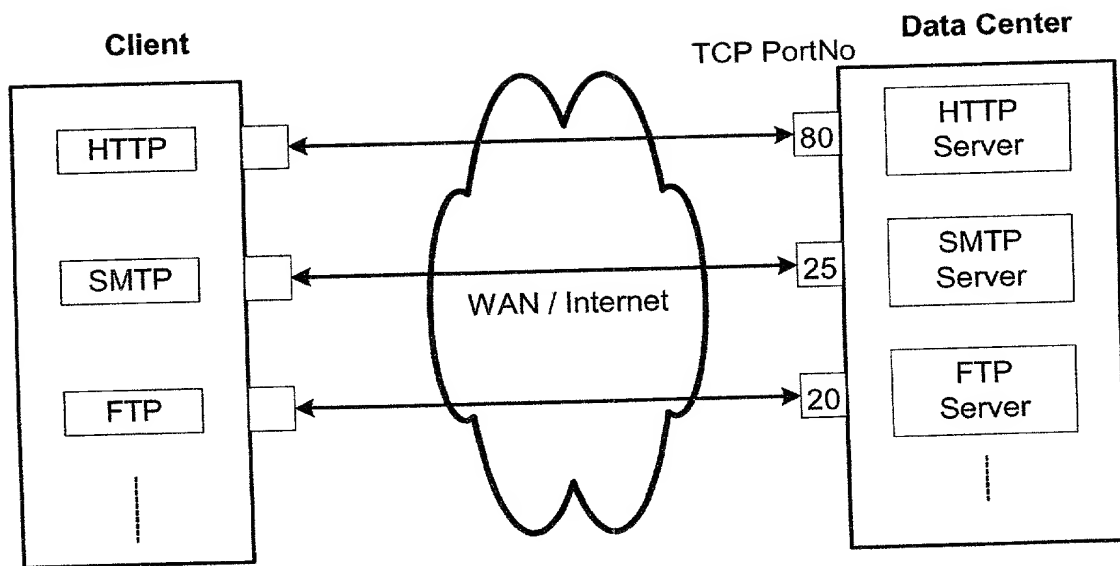
FIG. 2

IP PACKET

Destination MAC Addr		Source MAC Addr		....		MAC Header	Layer 2
...	Source IP Addr		Destination IP Addr		....	IP Header	Layer 3
Source TCP port		destination TCP port		....		TCP Header	Layer 4
URL		Cookie		....		HTTP Header	Layer 7
....						Data portion	

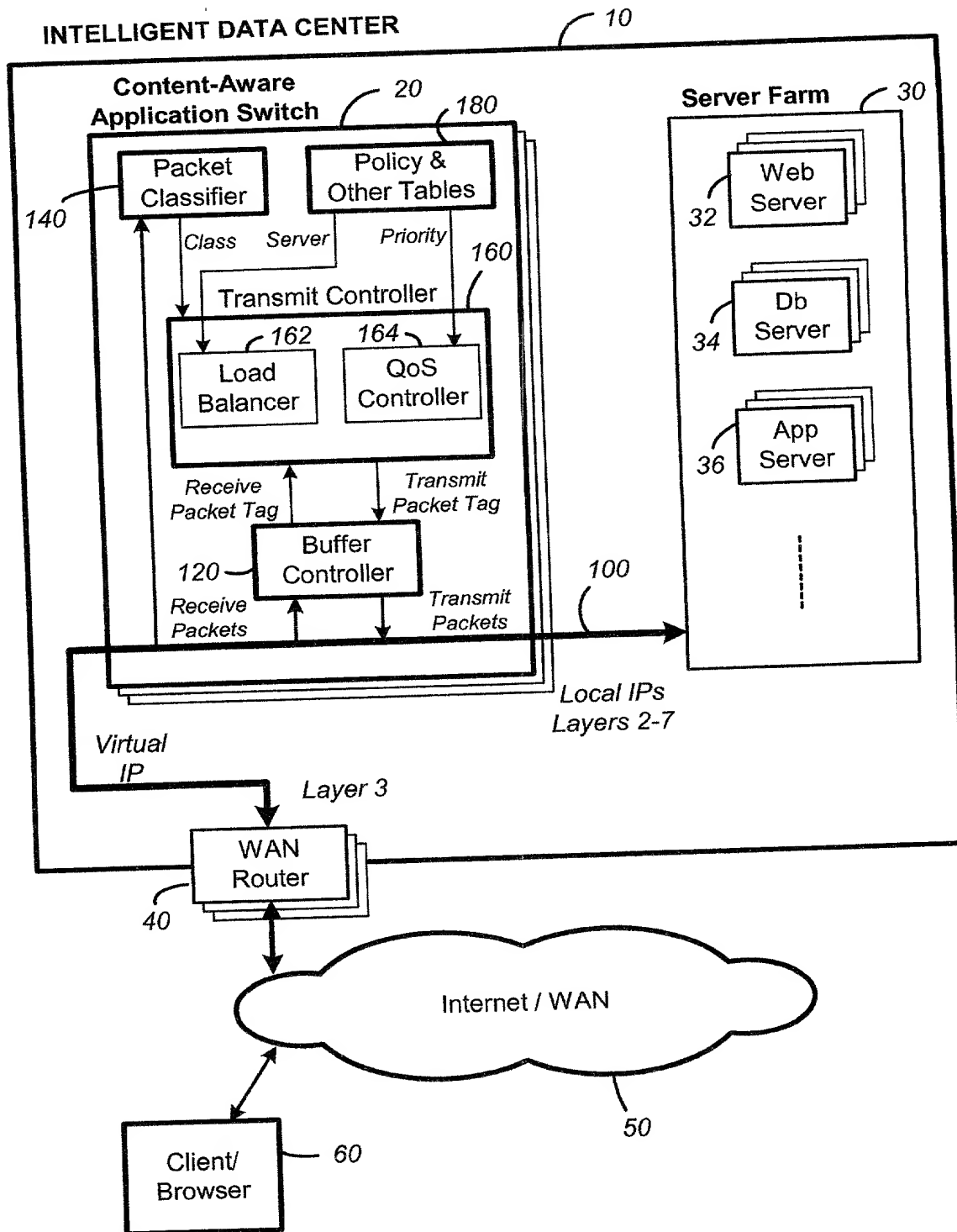
PRIOR ART

FIG. 3



Well-Known TCP port (Softport) Connections

**FIG. 4**     **PRIOR ART**



**FIG. 5**

Protocol Layer	TCP/IP	Message	Router/Switch
5-7	Application	HTTP Payload: Data & Other Personalized Information	Content-Aware Application Switch
		HTTP Header: URL, Ref, Host, Cookie, ...	
4	Transport	TCP PortNos	Web Switch
3	Internet	IP Addresses	Router
2	Subnet	MAC Addresses	Lan Switch
1			

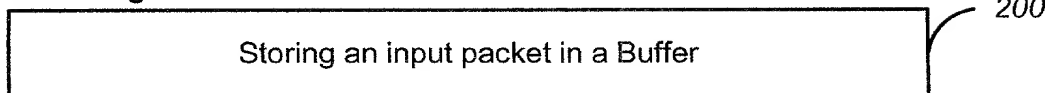
**FIG. 6**

**PACKET TAG**

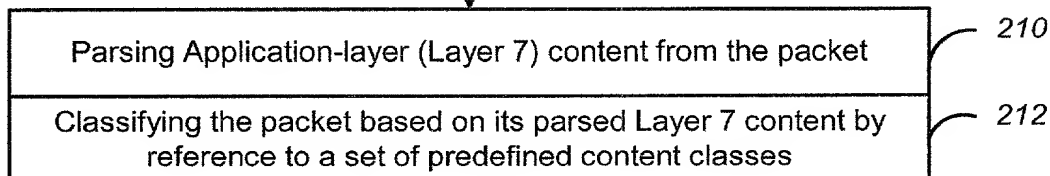
Packet ID	Buffer Address	Priority	Previous packet ID	Next packet ID	----	Selected Server
-----------	----------------	----------	--------------------	----------------	------	-----------------

**FIG. 9**

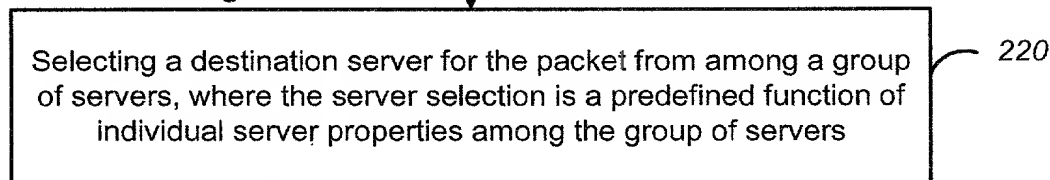
### Buffering



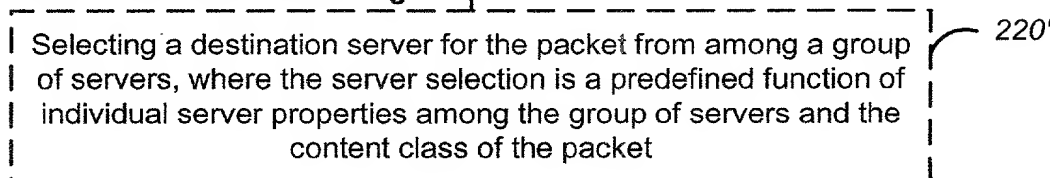
### Content Classification of Packet



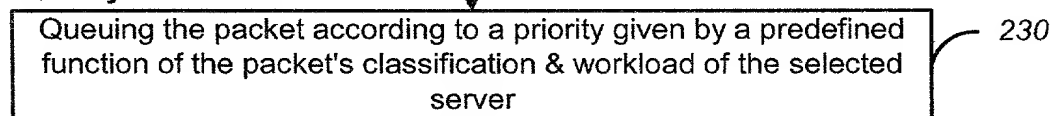
### Load Balancing



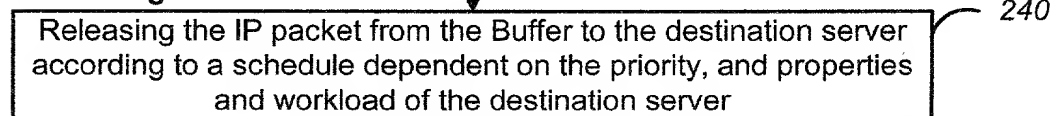
### Alternative Load Balancing



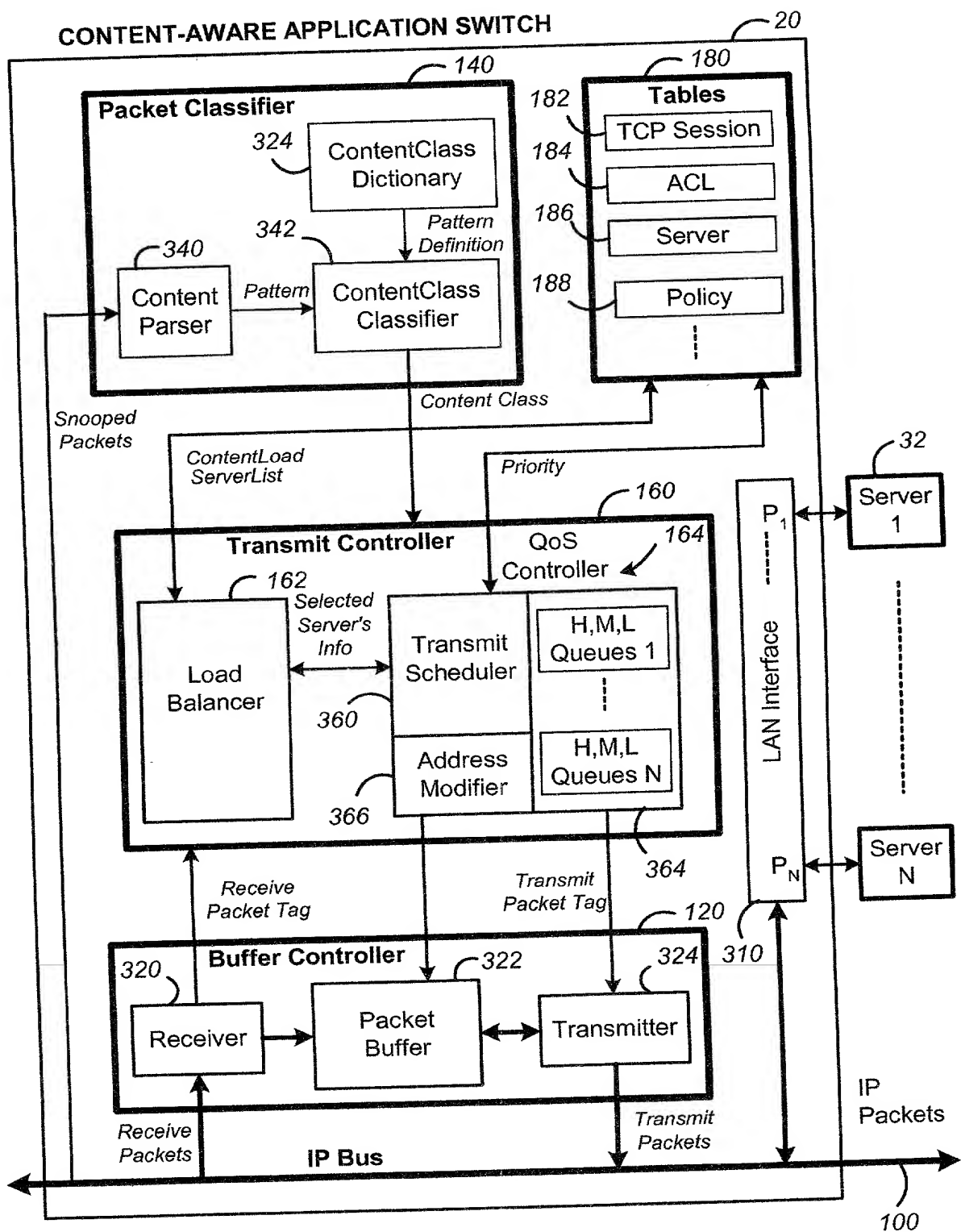
### Quality-of-Service



### Switching



**FIG. 7**



**FIG. 8**

CLASS CONTENT DICTIONARY

CLASS	Pattern
1	....
2	....
.	.
.	.
.	.
K	....

**FIG. 10A**

CLASS POLICY TABLE

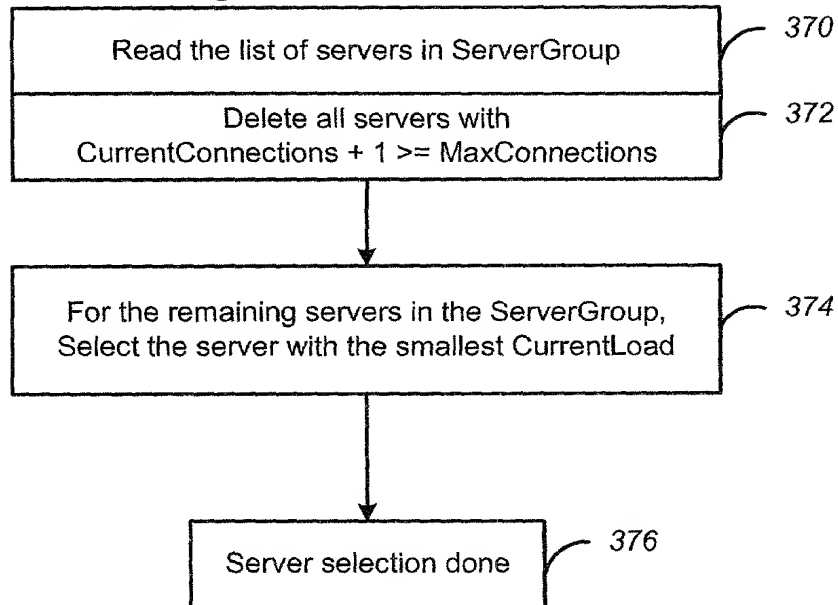
CLASS	Priority	Server Group	Class Weight
1	....	....	....
2	....	....	....
.		.	
.		.	
.		.	
K	....	....	....

**FIG. 10B**

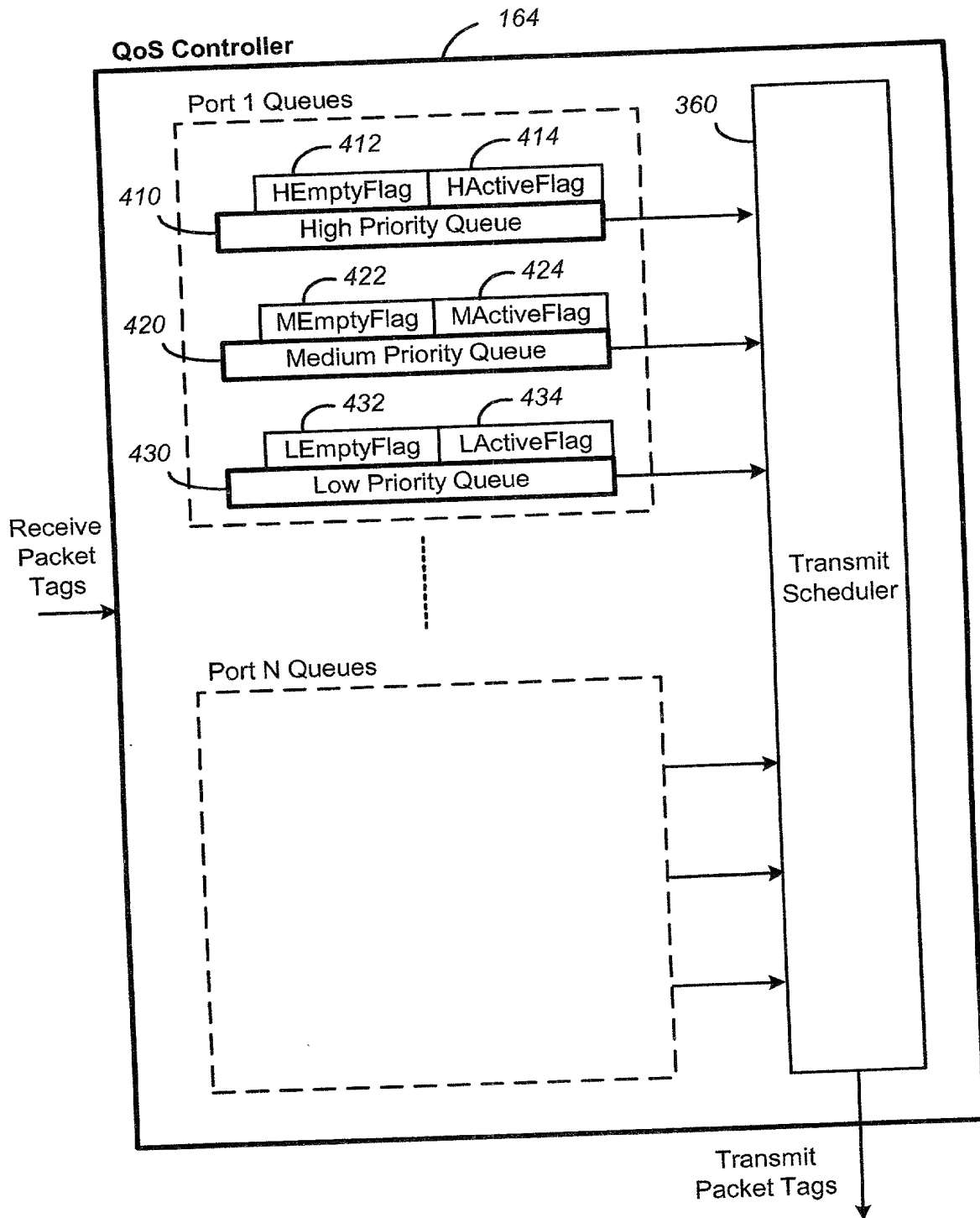


[illegible][illegible][illegible][illegible][illegible][illegible]

### Load Balancing



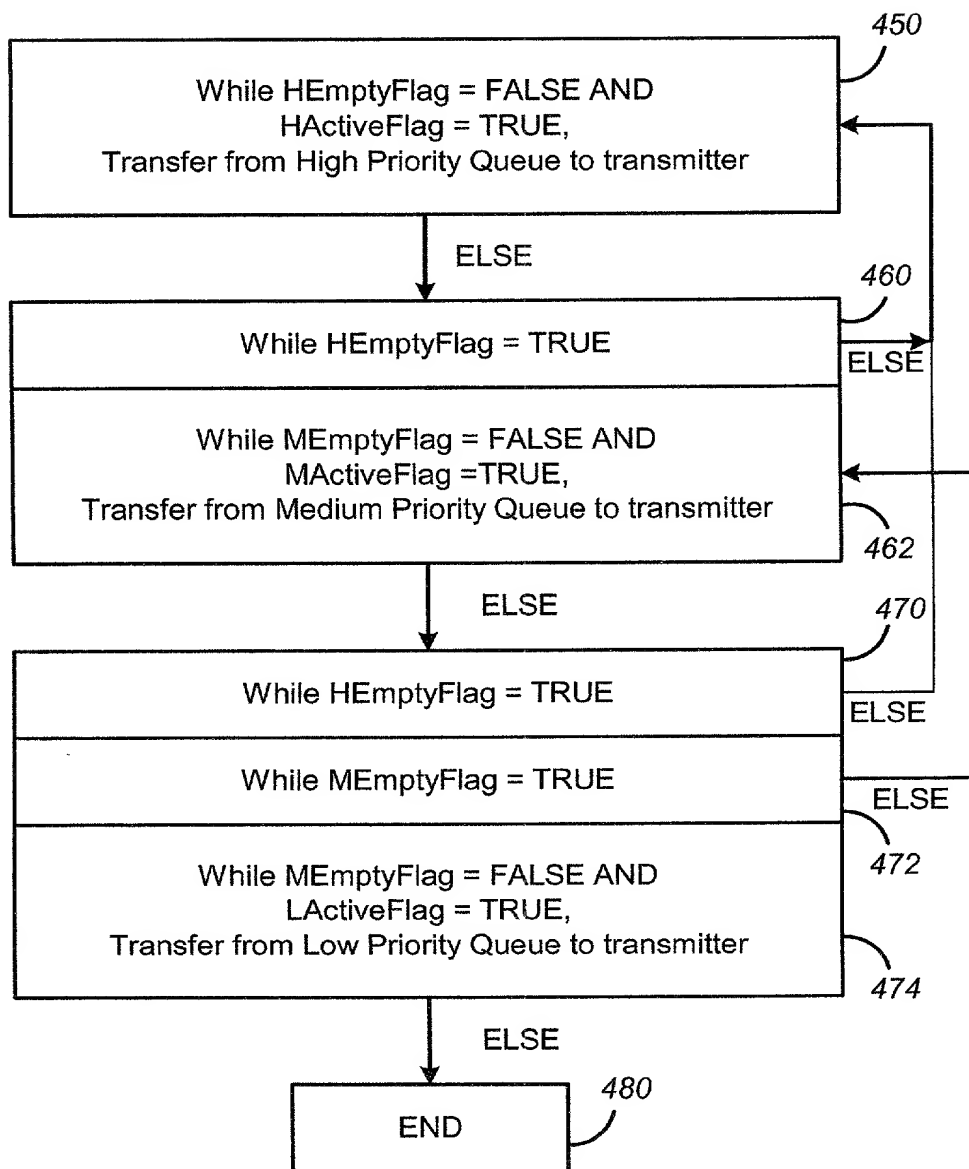
**FIG. 11**



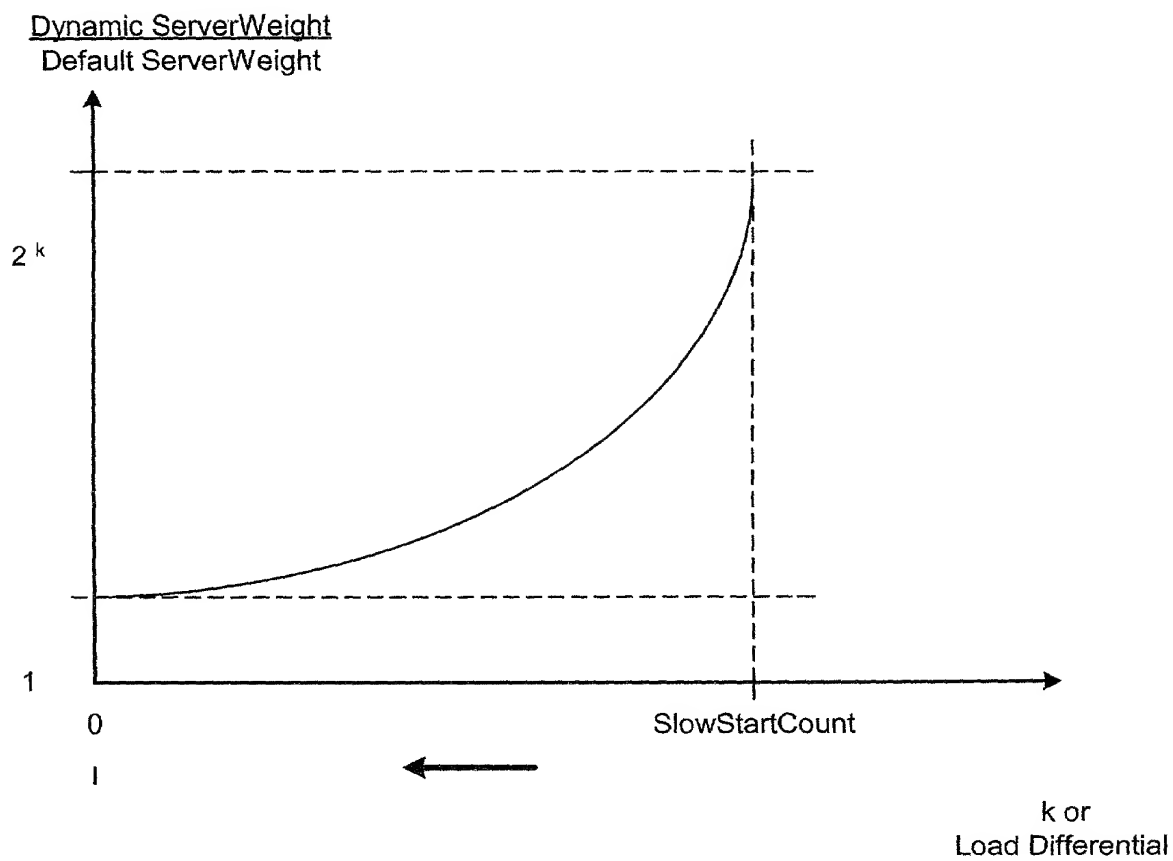
**FIG. 12**

CurrentLoad					
		Priority Scheme	HActiveFlag	MActiveFlag	LActiveFlag
MaxLoad					
		High Priority packets allowed, Medium ones retarded	1	Alternate 1 and 0	0
HIGH Margin		High & Medium Priority packets allowed, Low Priority ones retarded	1	1	Alternate 1 and 0
LOW Margin		All Priority packets allowed	1	1	1

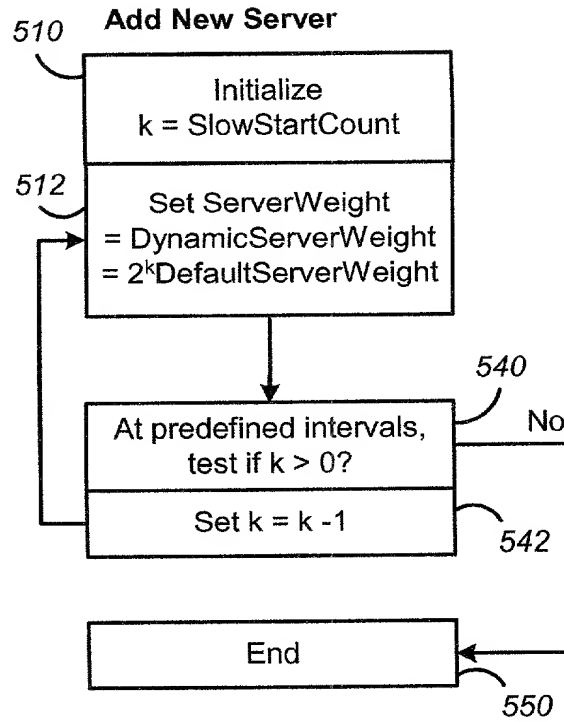
**FIG. 13**



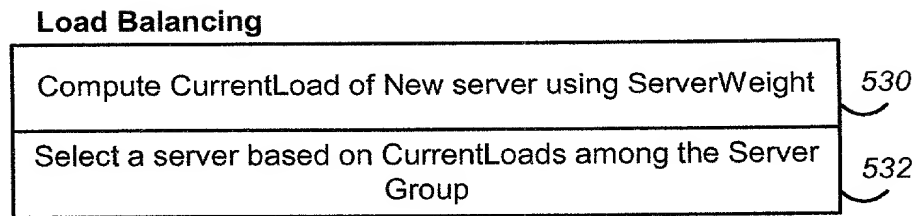
**FIG. 14**



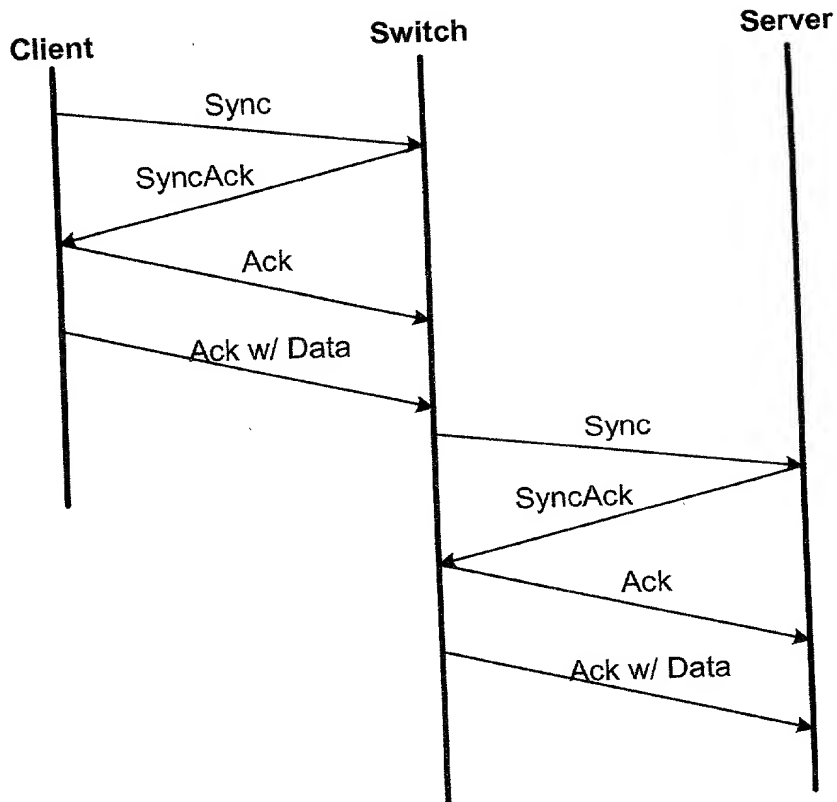
**FIG. 15**



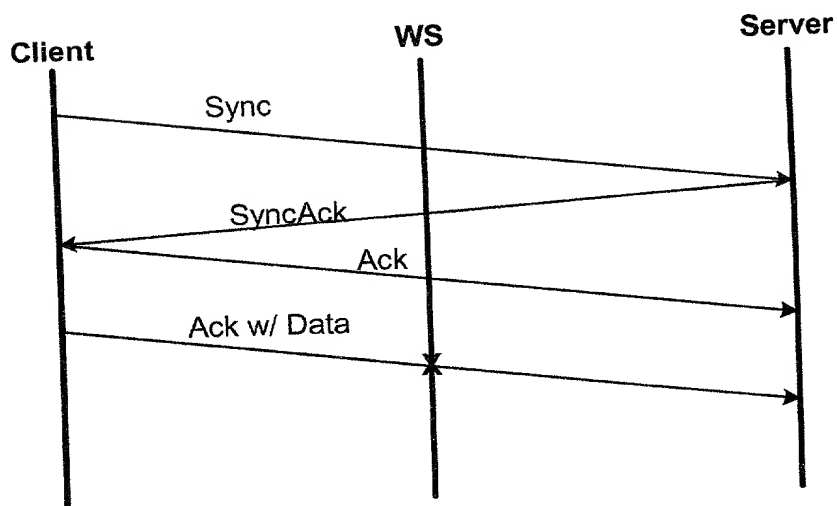
**FIG. 16A**



**FIG. 16B**

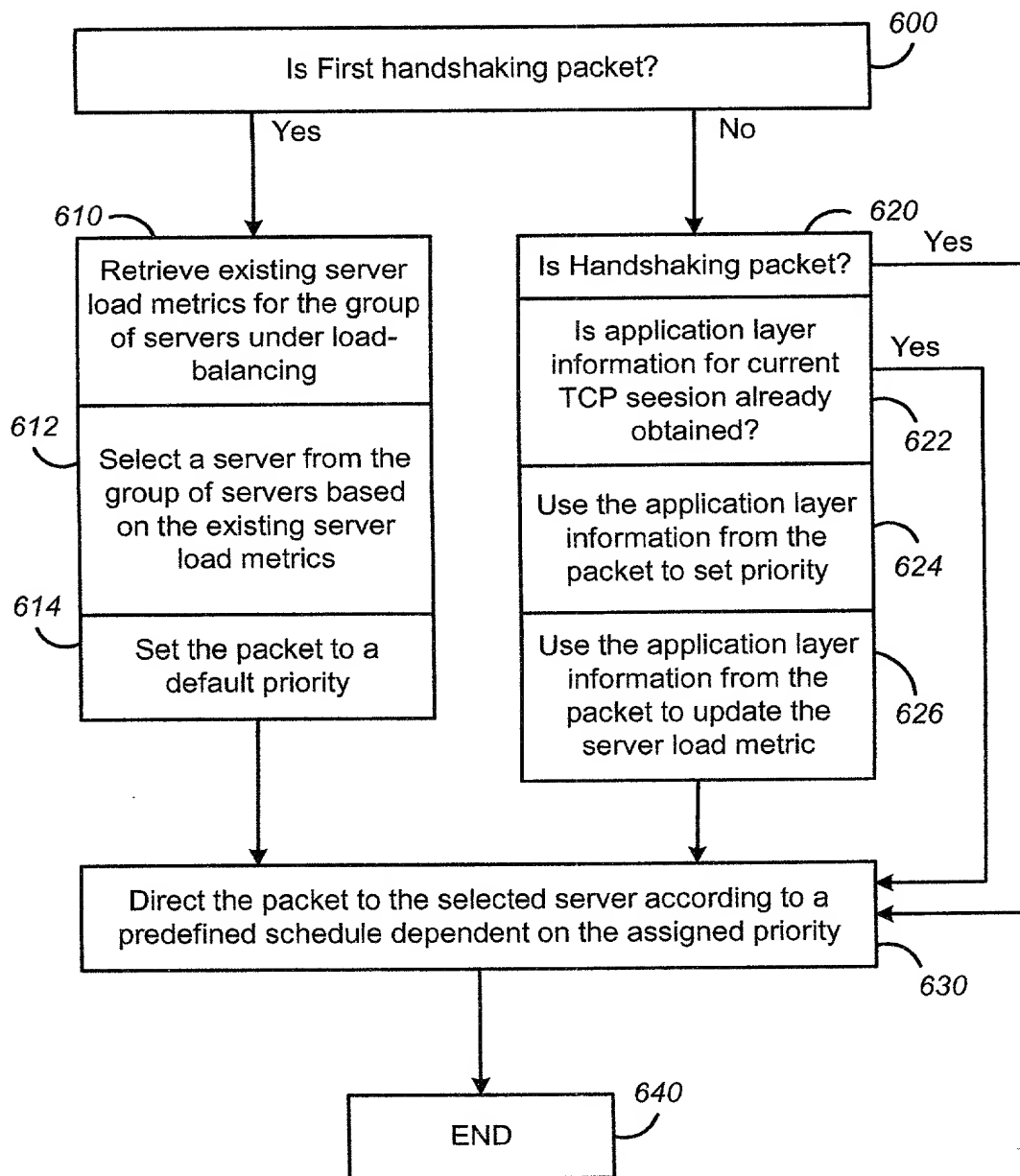


**FIG. 17** TCP Slicing



**FIG. 18**





**FIG. 19**